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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/030,692	01/14/2002	Hans Rudolf Muller	EPROV 17	8615
23599 7590 09/12/2008 MILLEN, WHITE, ZELANO & BRANIGAN, P.C. 2200 CLARENDON BLVD. SUITE 1400 ARLINGTON, VA 22201				
EXAMINER				
BERCH, MARK L.				
ART UNIT		PAPER NUMBER		
1624				
MAIL DATE		DELIVERY MODE		
09/12/2008		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/030,692

Applicant(s)

MULLER ET AL.

Examiner

/Mark L. Berch/

Art Unit

1624

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 August 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15, 29, 31, 33, 34, 37, 40, 42, 45-49 and 51 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-13, 29, 33, 34, 40, 42, 45 and 49 is/are allowed.
- 6) ☒ Claim(s) 14, 15, 31, 37 and 46-48 is/are rejected.
- 7) ☒ Claim(s) 51 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-945)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

The amendment after final is entered. The Final rejection is withdrawn. Prosecution is reopened.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 31, 37, are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 31 is garbled. It says that the ditertiary diphosphine itself (rather than the phosphine groups themselves as accurately appears in claim 14) is attached to a) or b), which is not what is intended.

Claim 46 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The last three variables are not in use.

Claim 47 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The intention of this claim is not clear. There are named moieties which may or may not be present. It is not seen how this claim has any scope any different from claim 46. If applicants disagree, they are asked to name a moiety which falls within claim 46, but not claim 47. If there is not such choice, then claim 47 fails to limit claim 46, and hence is not properly dependent.

Claims 14-15, 31, 37, 48 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Upon review of the claims, it is realized that the claim 15 claim language, which has now been imported into claim 14, has the same "ditertiary diphosphine" problem as was the basis for the rejection of claim 35. Then issue here, as before, is that in the term "ditertiary diphosphine", the "tertiary" could be talking about the nature of the P atom, or it could be talking about the nature of the substituent on the P atom. Would that include (t-butyl)PH-CH₂-CH₂-PH(t-butyl)? It is a diphosphine and it does have tertiary groups (the t-butyl) and it does have two hydrocarbon radical. The adjective here, tertiary, could refer to the P, but it could just as well refer to the substituent on the P. The t-butyl is a tertiary group: the "t-" in t-butyl stands for tertiary. Thus, in the term "ditertiary diphosphine", the "tertiary" could be talking about the nature of the P atom, or it could be talking about the nature of the substituent on the P atom. In the former case, then, no, (t-butyl)PH-CH₂-CH₂-PH(t-butyl)?, is not ditertiary. But in the latter case, (t-butyl)PH-CH₂-CH₂-PH(t-butyl)? is ditertiary because it has two tertiary substituents (t-butyls) present in the molecule.

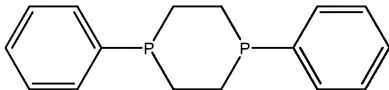
In claims 14, applicants have reinstated the term "ditertiary diphosphine". The term also appears in claim 18, where R41 is the monovalent radical formed from ditertiary

diphosphine, so the same problem arises. The "monovalent radical" part is not a problem in claim 18. The term had also been inserted into claim 16, but there a formula occurs so that the formula sets the scope of the claim. The term was inserted into independent claim 19, now cancelled in favor of claim 48, although the remarks make no reference to this.

The problem is as before: What does the term mean? What does the term embrace?

Despite all the discussion, applicants in their most recent remarks have not set forth specifically what the term means, although applicants have added a new sentence to the discussion, which ultimately is of no value. The examiner has named some specific groups and asked whether these are embraced, and as yet these have not been addressed. There were $(\text{Methyl})_2\text{P}\cdot\text{P}(\text{methyl})_2$ or $(\text{Methyl})\text{P}=\text{C}=\text{P}(\text{methyl})$ or $(\text{Methyl})\text{P}=\text{P}(\text{methyl})$ or $(\text{Methyl})\text{P}=\text{CH}\cdot\text{HC}=\text{P}(\text{methyl})$. These are all based on the assumption that the "tertiary" is based on the P atom (not the substituent on the P atom) as applicants assert. These do meet the requirement as applicants state, "each phosphine in a ditertiary diphosphine is a tertiary phosphine..." But they do not meet the $\text{R}_2\text{P}\cdot\text{R}\cdot\text{PR}_2$, where R is a hydrocarbyl group, definition that applicants also state is their intention. Of course, it is also true that some of the phosphines set forth in the specification, e.g. the R6 choices at page 22, line 10, do not meet this $\text{R}_2\text{P}\cdot\text{R}\cdot\text{PR}_2$, where R is a hydrocarbyl group, formulation either.

It also remains unclear if the claim language covers the ligand diphenyl diphosphacyclohexane:



As was noted before, this is a known ligand for catalysis.

If applicants would insert into the claims an unambiguous definition of the term, that would completely resolve the matter, provided that it had descriptive support and does not conflict with what appears in dependent claims.

The examiner understands from the earlier remarks that applicants do not intend such compounds as the ligand diphenyl diphosphacyclohexane. However, such compounds do meet the claim language (assuming that the “tertiary” is based on the P atom), since the two P atoms are indeed attached to carbon atoms of a 2 carbon chain. When the claim embraces material which applicants do not intend, then the “the subject matter which the applicant regards as his invention” requirement of the statute has not been met.

The examiner believes it would be helpful if applicants were to use a structural formula to convey what they intend, because at the present time, the claim language is unclear and does not line up with what applicants state that they intend. Applicants have stated on the record that they intend $R_2P-R-PR_2$, where R is a hydrocarbyl group. But their current claim language simply does not convey this. The examiner notes that in page 26, last sentence, of the earlier remarks, it says “each phosphine in a ditertiary diphosphine is a tertiary phosphine...” But in diphenyl diphosphacyclohexane as noted above, each P atom is tertiary and yet this molecule does not fit the formula $R_2P-R-PR_2$ which applicants have stated in other remarks that the term means.

Claim Objections

Claim 51 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to /Mark L. Berch/ whose telephone number is 571-272-0663. The examiner can normally be reached on M-F 7:15 - 3:45.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James O. Wilson can be reached on (571)272-0661. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mark L. Berch/
Primary Examiner
Art Unit 1624

9/12/2008